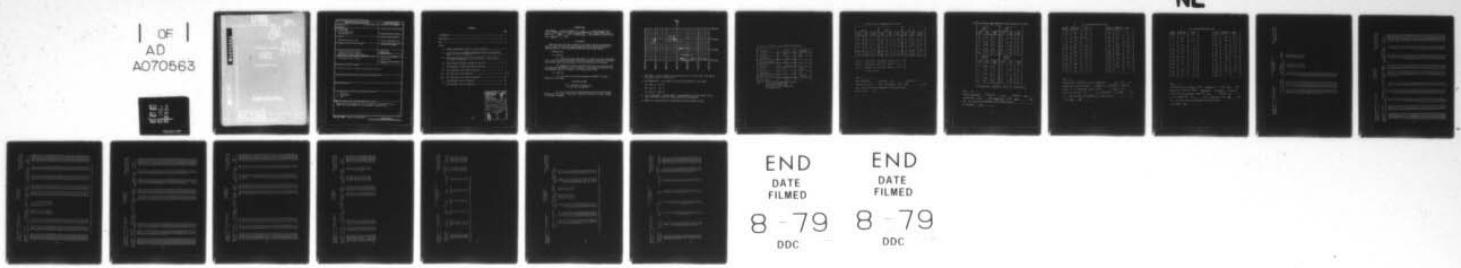


AD-A070 563 ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2
19702A GSRS, MISSILE NUMBER 361, ROUND NUMBER B-4.(U)
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METEOROLOGICAL DATA REPORT

19702A GSRS
Missile No. 361
Round No. B-4
(5 March 1979)

by

WSMR Meteorological Team

~~DMC~~ FILE COPY

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM 79 46 26 030

UNITED STATES ARMY ELECTRONICS COMMAND

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER <i>(4)</i> DR-991	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19702A GSRS Missile Number 361 Round Number B-4		5. TYPE OF REPORT & PERIOD COVERED
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18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) 1. Ballistics 2. Meteorology 3. Wind		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19702A GSRS, Missile Number 361, Round Number B-4, are presented in tabular form. <i>400 844</i>		

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NTIS GRA&I	
DDC TAB	
Unannounced	
Justification _____	
By _____	
Distribution / _____	
Availability _____	
Dist _____	Available or special _____

INTRODUCTION

GSRS 19702A, Missile Number(s) 361, Round Number(s) B-4, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0900 MST, 5 March 1979. The scheduled launch time(s) were 0900 and MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$); density (gm/m^3), wind direction, wind velocity and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole mounted and tower mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

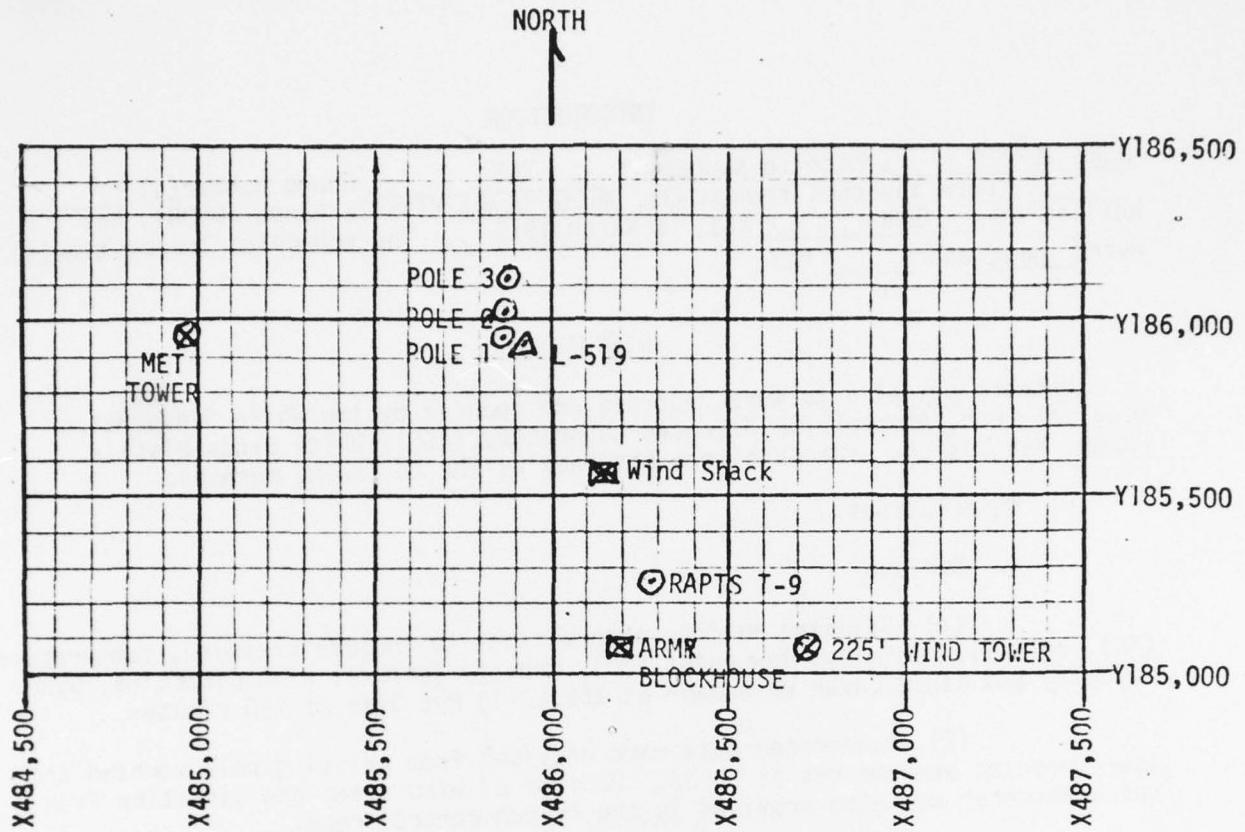
b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation as follows:

SITE AND ALTITUDE

LC-33 1 kilometer (50 meter inc)
at 0847 MST and 0900 MST

(2) Air structure data (rawinsonde) were collected at the WSD Met Site at T-0 minutes. Data were collected from surface to 125% of apogee in 500-feet increments.



1. MET TOWER - 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders in Wind Shack.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders in Wind Shack
 - (a) Pole #1 - 38.7 ft
 - (b) Pole #2 - 53.0 ft
 - (c) Pole #3 - 83.6 ft
3. 225 FT WIND TOWER - 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.
4. RAPTS T-9 - Radar Automatic Pilot-Balloon Tracking System T-9 Radar

The data are presented in the following tabulations:

ELEVATION	3977.30	FEET/MSL
PRESSURE	887.9	MBS
TEMPERATURE	6.6	°C
RELATIVE HUMIDITY	35	%
DEW POINT	-7.7	°C
DENSITY	1102	GM/M ³
WIND SPEED	02	MPH
WIND DIRECTION	360	DEGREES
CLOUD COVER	Clear	

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC-33
AT 0900 MST/5 MARCH 1979
19702A GSRS, Missile Number 361
Round Number B-4.

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 *			POLE #2 *			POLE #3		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	340	M	-30	M	04	-30	355	05
-20	360	M	-20	M	04	-20	350	06
-10	360	M	-10	M	04	-10	350	06
0.0	355	M	0.0	M	04	0.0	355	06
+10	360	M	+10	M	04	+10	350	05

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL

* Pen not inking.

TABLE II

TYPE 19702A GSRS MISSILE NO. 361 ROUND NO. B-4
 LAUNCHED FROM LC-33 DATE 5 March 1979 TIME 0900 LST
 NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH
 OR TRUE NORTH 360°

LC33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 ft			LEVEL #2 62 ft		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	345	02	-30	355	06
-20	010	04	-20	360	09
-10	360	08	-10	360	09
0.0	350	07	0.0	355	10
+10	350	07	+10	355	09
LEVEL #3 102 ft			LEVEL #4 202 ft		
T-TIME SEC	DIR DEG	SPEED MPH	T-TIME SEC	DIR DEG	SPEED MPH
-30	360	04	-30	355	08
-20	360	08	-20	005	08
-10	355	08	-10	005	09
0.0	360	09	0.0	345	07
+10	355	08	+10	355	08

WTSM COORDINATES: X484,982.64 Y185,957.73 H3983.00(base)

TABLE III

TYPE (AL) 19702A GSRS MISSILE NO. 361 ROUND NO. B-4
 LAUNCHED FROM LC-33 DATE 5 March 1979 TIME 0900 MST
 NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH
 OR TRUE NORTH 360°.

PILOT BALLOON MEASURED WIND DATA

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
SUR	360	20
50	Calm	Calm
100	036	1.4
150	006	6.2
200	004	9.0
250	004	11.0
300	013	16.0
350	012	18.5
400	002	14.4
450	013	14.5
500	013	13.0

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
550	023	11.0
600	021	9.0
650	011	12.0
700	009	12.0
750	026	12.0
800	030	10.0
850	046	7.3
900	009	3.9
950	010	3.3
1000	038	4.1
1050		

TABLE IV

RELEASED FROM LC-33 Mobile T-9 DATE 5 March 1979 TIME 0847 LST
 RELEASE POINT COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30
 MISSILE TYPE (AL) 19702A GSRS MISSILE NO. 361 ROUND NO. B-4
 MISSILE LAUNCHED FROM LC-33 DATE 5 March 1979 TIME 0900 LST
 NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH
 OR TRUE NORTH 360°

PILOT BALLOON MEASURED WIND DATA

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
SUR	360	20
50	Calm	Calm
100	006	1.0
150	015	4.6
200	018	10.0
250	023	11.0
300	022	14.5
350	011	16.0
400	017	14.0
450	010	13.0
500	017	13.0

HEIGHT METERS	DIRECTION DEGREES	SPEED MPH
550	010	12.0
600	005	11.5
650	007	11.5
700	012	13.0
750	013	12.0
800	029	10.0
850	036	7.2
900	033	3.1
950	024	3.4
1000	035	6.3
1050		

TABLE V

RELEASED FROM LC-33 T-9 Mobile DATE 5 March 1979 TIME 0900 LST

RELEASE POINT COORDINATES (WSTM) X=486.037.24 Y=182.350.16 H=3977.30

MISSILE TYPE (AL) 19702A GSRS MISSILE NO. 361 ROUND NO. B-4

MISSILE LAUNCHED FROM LC-33 DATE 5 March 1979 TIME 0900 LST

NOTE: WIND DIRECTIONS ARE REFERENCED TO THE FIRING AZIMUTH

OR TRUE NORTH 360°.

STATION ALTITUDE 3969.0 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

SIGNIFICANT LEVEL DATA
0640020113
WHITE SANDS

GEODETIC COORDINATES
32°44'04" LAT 06°
106°03'03" LON 06°

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE METERS MSL	TEMPERATURE AIR DEPTHPINT DEGREES CELSIUS	RELATIVE HUMIDITY PERCENT	
			DEGREES LENTIGRADE	PERCENT
4880.2	3989.0	7.0	-7.4	34.0
4624.4	4781.3	4.0	-9.7	36.0
4500.0	5167.9	4.0	-10.0	35.0
4366.5	6366.5	2.5	-12.5	32.0
4217.2	7217.2	2.7	-12.7	31.0
40236.5	10236.5	-5.0	-15.3	44.0
3975.5	11197.0	-7.4	-16.4	41.0
3965.0	11545.0	-7.8	-22.9	18.0
3956.4	11936.7	-6.8	-27.1	18.0
3974.2	15233.1	-12.3	-31.7	18.0
3900.0	18764.2	-19.6	-37.2	19.0
4000.0	24065.6	-3.3	-46.8	24.0
3777.0	25426.3	-36.2	-47.4	24.0
3700.0	30501.0	-49.3		
2500.0	34378.3	-56.0		
2322.2	35915.3	-58.9		
2077.2	38304.7	-52.6		
2000.0	39054.9	-54.2		
1841.2	40796.0	-53.7		
179.8	41308.7	-52.3		
150.0	45160.4	-53.8		
142.8	46202.4	-53.8		
139.0	46772.1	-55.0		
100.0	53650.4	-58.9		
79.0	61007.2	-60.7		
65.9	62243.8	-61.9		
62.8	63236.3	-58.5		
50.0	67970.0	-58.5		
39.2	73028.6	-58.3		
33.6	76146.7	-53.5		
30.0	78679.5	-54.3		
27.4	80598.6	-55.0		
25.6	82044.5	-52.1		
20.0	87336.2	-51.9		
15.1	93462.0	-44.9		

STATION ALTITUDE 3988.0 FEET MSL
5 MAR. 79 C007 HRS MST
ASCENSION NO. 113

UPPER AIR DATA
0640020113
WH11E SANUS

GEODETIC COORDINATES
32° 00' 45" LAT DEG
106° 37' 03" LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	WIND DIRECTION PERCENT	DENSITY GR/CM ³	SPEED OF SOUND KNOTS	MOUNTAIN DEGREES (TM)	WIND DATA SPEED KNOTS	INFLUX UP	REFRACTION	
3989.0	868.2	7.8	-7.1	1099.6	653.5	*0	0.0	1.0000464		
4000.0	867.8	7.7	-7.1	1099.4	653.4	24.8	0.1	1.0000462		
4500.0	871.5	2.3	-8.7	1068.6	656.6	24.8	2.7	1.0000458		
5000.0	855.4	4.0	-9.9	1073.8	649.0	24.8	5.4	1.0000454		
5500.0	637.5	3.7	-10.5	1055.0	646.6	24.8	8.4	1.0000449		
6000.0	923.8	3.3	-11.2	1037.1	646.1	27.7	6.1	1.0000444		
6500.0	803.5	2.8	-12.0	1019.4	647.6	36.3	5.8	1.0000439		
7000.0	793.5	<6	-12.6	1001.4	647.3	49.8	4.3	1.0000435		
7500.0	778.6	>0	-12.9	981.7	646.6	69.6	3.4	1.0000431		
8000.0	763.8	*7	-13.2	970.5	645.1	59.0	2.1	1.0000427		
8500.0	747.4	*5	-13.6	956.5	645.6	1.2	1.2	1.0000424		
9000.0	735.2	-1.8	-14.0	942.8	642.1	36.1	3.1	1.0000421		
9500.0	721.3	-3.0	-14.5	929.3	640.6	297.2	5.8	1.0000417		
10000.0	707.7	-4.3	-15.0	916.0	639.1	297.6	6.6	1.0000414		
10500.0	694.2	-5.6	-16.0	902.9	637.6	303.0	9.6	1.0000410		
11000.0	680.8	-6.9	-17.7	891.7	636.0	310.9	9.5	1.0000406		
11500.0	667.7	-7.7	-25.6	876.0	634.8	330.6	7.7	1.0000401		
12000.0	654.8	-6.9	-27.2	856.4	635.8	346.7	7.7	1.0000394		
12500.0	642.0	-7.7	-27.8	842.3	634.8	335.8	6.6	1.0000391		
13000.0	629.5	-6.5	-28.5	826.4	633.9	352.7	10.9	1.0000388		
13500.0	617.2	-4.3	-29.2	814.7	632.9	351.4	13.8	1.0000384		
14000.0	605.2	-10.1	-29.9	18.0	631.9	321.1	17.1	1.0000381		
14500.0	593.4	-11.0	-30.5	18.0	630.9	320.4	17.1	1.0000378		
15000.0	581.8	-11.8	-31.2	18.0	725.1	624.9	344.5	20.8	1.0000375	
15500.0	570.3	-12.7	-31.9	18.0	762.5	626.9	346.2	22.0	1.0000372	
16000.0	558.9	-13.7	-32.7	18.0	750.4	627.6	343.0	23.9	1.0000369	
16500.0	547.8	-14.8	-33.5	18.3	738.4	626.3	337.5	26.1	1.0000366	
17000.0	536.8	-15.8	-34.4	18.2	726.7	625.0	334.9	27.2	1.0000364	
17500.0	526.1	-16.9	-35.2	18.6	715.1	625.7	334.3	27.7	1.0000361	
18000.0	515.6	-16.0	-36.0	18.6	703.8	622.4	335.9	27.7	1.0000358	
18500.0	505.3	-17.0	-36.8	18.9	692.6	621.1	332.5	29.1	1.0000356	
19000.0	495.0	-20.2	-37.7	19.4	681.6	619.6	334.6	31.0	1.0000353	
19500.0	484.0	-21.5	-38.5	19.7	670.9	616.0	333.4	33.5	1.0000351	
20000.0	474.6	-22.8	-39.4	20.2	660.3	616.5	331.9	35.4	1.0000348	
20500.0	464.7	-24.1	-40.3	20.6	649.9	614.9	329.9	36.4	1.0000346	
21000.0	455.1	-25.4	-41.2	21.1	639.7	613.3	326.1	36.4	1.0000343	
21500.0	445.6	-26.7	-42.1	21.6	629.7	611.7	326.5	36.1	1.0000341	
22000.0	436.3	-25.0	-43.0	22.1	619.9	610.1	326.0	37.6	1.0000339	
22500.0	427.2	-27.3	-43.9	22.5	610.2	606.4	328.1	39.0	1.0000337	
23000.0	418.3	-30.5	-44.6	23.0	600.7	606.8	329.6	40.3	1.0000334	

STATION ALTITUDE 3989.00 FEET A.S.L.
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

UPPER AIR DATA
0540Z CEST 13
WILHELMSBURG
106.37E 53.00N

RELATIVE COORDINATES
52.4443 LAT N
106.37E 53 LON E

GEOMETRIC PRESSURE ALTITUDE MSL FEET	TEMPERATURE AIR DEGREE CENTIGRADE	DEPOINT MILLIBARS	PERCENT CENTIGRADE	REL. HUM. PERCENT	DENSITY MEETER	GRAVITY SUNNU KNOTS	WIND DIA SPLEU KNUTS	WIND DIA REFRACT.	INDEX OF REFRACTION																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
									23500.0	24000.0	24500.0	25000.0	25500.0	26000.0	26500.0	27000.0	27500.0	28000.0	28500.0	29000.0	29500.0	30000.0	30500.0	31000.0	31500.0	32000.0	32500.0	33000.0	33500.0	34000.0	34500.0	35000.0	35500.0	36000.0	36500.0	37000.0	37500.0	38000.0	38500.0	39000.0	39500.0	40000.0																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
409.6	-31.8	445.6	23.5	23.4	582.1	605.6	546.2	41.7	1.000134	401.1	-346.7	23.4	24.0	572.3	604.2	526.9	43.1	1.000130	392.5	-349.2	24.0	24.7	562.5	604.9	524.7	44.5	1.000129	384.1	-352.3	24.0	24.8	552.8	594.2	522.4	45.9	1.000126	375.8	-356.4	24.0	24.9	543.5	597.8	522.1	46.1	1.000124	367.4	-357.7	24.0	24.9	543.5	597.8	522.3	46.2	1.000121	359.2	-359.0	24.0	24.9	534.3	596.2	524.1	46.1	1.000119	351.2	-355.7	24.0	24.9	525.3	594.5	525.3	46.1	1.000117	343.4	-358.7	24.0	24.9	516.5	594.9	526.0	46.2	1.000115	335.8	-360.7	24.0	24.9	507.9	591.2	526.0	47.1	1.000113	328.3	-363.3	24.0	24.9	499.4	589.6	525.7	48.4	1.000111	321.0	-366.4	24.0	24.9	481.0	587.9	526.1	47.9	1.000109	313.8	-368.7	24.0	24.9	462.8	586.2	524.9	46.9	1.000108	306.8	-368.0	24.0	24.9	474.8	584.6	525.4	45.9	1.000106	300.0	-369.3	24.0	24.9	466.9	584.9	526.0	44.9	1.000104	293.0	-370.2	24.0	24.9	457.8	581.7	522.0	44.6	1.000102	286.2	-371.0	24.0	24.9	448.9	580.6	521.9	44.6	1.000100	279.6	-370.4	24.0	24.9	440.2	579.5	519.5	43.4	1.000098	273.1	-370.9	24.0	24.9	431.6	576.4	516.5	42.2	1.000096	266.8	-373.6	24.0	24.9	423.3	577.2	506.3	41.9	1.000094	260.7	-375.5	24.0	24.9	415.1	576.1	507.2	42.8	1.000092	254.5	-376.3	24.0	24.9	407.0	574.9	507.2	47.4	1.000091	248.5	-377.4	24.0	24.9	399.1	573.3	501.8	52.7	1.000089	242.8	-378.2	24.0	24.9	391.4	572.5	501.4	56.0	1.000087	236.6	-379.1	24.0	24.9	383.8	571.3	497.5	59.1	1.000085	230.5	-379.5	24.0	24.9	375.6	570.5	494.5	56.7	1.000084	225.8	-379.4	24.0	24.9	364.5	574.3	506.2	54.3	1.000081	219.5	-379.0	24.0	24.9	355.8	571.0	504.3	49.9	1.000079	214.2	-379.2	24.0	24.9	343.4	570.6	501.0	41.8	1.000076	209.5	-379.7	24.0	24.9	333.3	569.5	494.6	42.3	1.000074	204.5	-379.9	24.0	24.9	324.9	568.0	494.3	40.6	1.000072	199.5	-379.9	24.0	24.9	316.8	566.6	491.9	41.9	1.000071	194.1	-379.9	24.0	24.9	308.3	565.3	491.8	40.9	1.000070	189.3	-379.7	24.0	24.9	299.4	563.9	489.7	42.3	1.000069	184.7	-379.6	24.0	24.9	291.4	563.5	489.6	44.6	1.000068	179.8	-379.5	24.0	24.9	283.2	562.5	487.5	42.4	1.000067	175.0	-379.4	24.0	24.9	275.0	561.5	487.4	42.4	1.000066	170.2	-379.3	24.0	24.9	266.8	560.3	487.3	42.4	1.000065	166.1	-379.2	24.0	24.9	258.6	559.3	487.2	42.4	1.000064	162.8	-379.1	24.0	24.9	250.4	558.3	487.1	42.3	1.000063	159.8	-379.0	24.0	24.9	242.2	557.0	486.7	40.7	1.000061	156.8	-378.9	24.0	24.9	233.9	555.9	485.6	41.3	1.000060	153.9	-378.8	24.0	24.9	225.6	554.9	484.5	41.9	1.000059	151.0	-378.7	24.0	24.9	217.4	553.9	483.4	41.9	1.000058	148.1	-378.6	24.0	24.9	209.1	552.9	482.3	42.3	1.000057	145.2	-378.5	24.0	24.9	200.8	551.9	481.2	42.1	1.000056	142.4	-378.4	24.0	24.9	192.5	550.9	480.1	41.9	1.000054	139.6	-378.3	24.0	24.9	184.2	549.9	479.0	41.3	1.000053	136.8	-378.2	24.0	24.9	175.9	548.9	478.0	41.3	1.000052	134.0	-378.1	24.0	24.9	167.6	547.9	476.9	41.9	1.000051	131.2	-378.0	24.0	24.9	159.3	546.9	475.8	41.9	1.000050	128.4	-377.9	24.0	24.9	151.0	545.9	474.7	41.9	1.000049	125.6	-377.8	24.0	24.9	142.7	544.9	473.6	41.9	1.000048	122.8	-377.7	24.0	24.9	134.4	543.9	472.5	41.9	1.000047	120.0	-377.6	24.0	24.9	125.1	542.9	471.4	41.9	1.000046	117.2	-377.5	24.0	24.9	116.8	541.9	470.3	41.9	1.000045	114.4	-377.4	24.0	24.9	108.5	540.9	469.2	41.9	1.000044	111.6	-377.3	24.0	24.9	100.2	539.9	468.1	41.9	1.000043	108.8	-377.2	24.0	24.9	91.9	538.9	467.0	41.9	1.000042	106.0	-377.1	24.0	24.9	83.6	537.9	465.9	41.9	1.000041	103.2	-377.0	24.0	24.9	75.3	536.9	464.8	41.9	1.000040	100.4	-376.9	24.0	24.9	67.0	535.9	463.7	41.9	1.000039	97.6	-376.8	24.0	24.9	58.7	534.9	462.6	41.9	1.000038	94.8	-376.7	24.0	24.9	50.4	533.9	461.5	41.9	1.000037	92.0	-376.6	24.0	24.9	42.1	532.9	460.4	41.9	1.000036	89.2	-376.5	24.0	24.9	33.8	531.9	459.3	41.9	1.000035	86.4	-376.4	24.0	24.9	25.5	530.9	458.2	41.9	1.000034	83.6	-376.3	24.0	24.9	17.2	529.9	457.1	41.9	1.000033	80.8	-376.2	24.0	24.9	9.9	528.9	456.0	41.9	1.000032	78.0	-376.1	24.0	24.9	1.6	527.9	454.9	41.9	1.000031	75.2	-376.0	24.0	24.9	-1.3	526.9	453.8	41.9	1.000030	72.4	-375.9	24.0	24.9	-9.6	525.9	452.7	41.9	1.000029	69.6	-375.8	24.0	24.9	-22.3	524.9	451.6	41.9	1.000028	66.8	-375.7	24.0	24.9	-34.0	523.9	450.5	41.9	1.000027	64.0	-375.6	24.0	24.9	-45.7	522.9	449.4	41.9	1.000026	61.2	-375.5	24.0	24.9	-57.4	521.9	448.3	41.9	1.000025	58.4	-375.4	24.0	24.9	-69.1	520.9	447.2	41.9	1.000024	55.6	-375.3	24.0	24.9	-80.8	519.9	446.1	41.9	1.000023	52.8	-375.2	24.0	24.9	-92.5	518.9	445.0	41.9	1.000022	50.0	-375.1	24.0	24.9	-104.2	517.9	443.9	41.9	1.000021	47.2	-375.0	24.0	24.9	-115.9	516.9	442.8	41.9	1.000020	44.4	-374.9	24.0	24.9	-127.6	515.9	441.7	41.9	1.000019	41.6	-374.8	24.0	24.9	-139.3	514.9	440.6	41.9	1.000018	38.8	-374.7	24.0	24.9	-151.0	513.9	439.5	41.9	1.000017	36.0	-374.6	24.0	24.9	-162.7	512.9	438.4	41.9	1.000016	33.2	-374.5	24.0	24.9	-174.4	511.9	437.3	41.9	1.000015	30.4	-374.4	24.0	24.9	-186.1	510.9	436.2	41.9	1.000014	27.6	-374.3	24.0	24.9	-197.8	509.9	435.1	41.9	1.000013	24.8	-374.2	24.0	24.9	-209.5	508.9	434.0	41.9	1.000012	22.0	-374.1	24.0	24.9	-221.2	507.9	432.9	41.9	1.000011	19.2	-374.0	24.0	24.9	-232.9	506.9	431.8	41.9	1.000010	16.4	-373.9	24.0	24.9	-244.6	505.9	430.7	41.9	1.000009	13.6	-373.8	24.0	24.9	-256.3	504.9	429.6	41.9	1.000008	10.8	-373.7	24.0	24.9	-268.0	503.9	428.5	41.9	1.000007	8.0	-373.6	24.0	24.9	-279.7	502.9	427.4	41.9	1.000006	5.2	-373.5	24.0	24.9	-291.4	501.9	426.3	41.9	1.000005	2.4	-373.4	24.0	24.9	-303.1	500.9	425.2	41.9	1.000004	-0.6	-373.3	24.0	24.9	-314.8	499.9	424.1	41.9	1.000003	1.8	-373.2	24.0	24.9	-326.5	498.9	423.0	41.9	1.000002	9.0	-373.1	24.0	24.9	-338.2	497.9	421.9	41.9	1.000001	16.2	-373.0	24.0	24.9	-350.0	496.9	420.8	41.9	1.000000	23.4	-372.9	24.0	24.9	-361.7	495.9	419.7	41.9	1.000000	30.6	-372.8	24.0	24.9	-373.4	494.9	418.6	41.9	1.000000	37.8	-372.7	24.0	24.9	-385.1	493.9	417.5	41.9	1.000000	45.0	-372.6	24.0	24.9	-396.8	492.9	416.4	41.9	1.000000	52.2	-372.5	24.0	24.9	-408.5	491.9	415.3	41.9	1.000000	59.4	-372.4	24.0	24.9	-420.2	490.9	414.2	41.9	1.000000	66.6	-372.3	24.0	24.9	-431.9

STATION ALTITUDE 3969.00 FEET MSL
5 MAR. 79
0900 HRS MST
ASCENSION NO. 113

UPPER AIR DATA
0640020113
WHITE SANDS

GEOGRAPHIC COORDINATES
32°40'34" LAT DEG
106°37'03" LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR TEMPOLIT DEGREES CENTIGRADE	REL. HUM. PERCENT	VENTILITY GR/HECTIC MEILER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES	WIND SPEED KNOTS	INDEX OF REFRACTION
43500.0	162.2	-53.2	256.4	577.8	471.4	41.9	1.000057	
44000.0	153.4	-53.3	251.1	577.6	491.3	41.7	1.000056	
44500.0	154.7	-53.5	245.5	577.3	293.0	40.9	1.000055	
45000.0	151.1	-53.7	240.0	577.1	297.0	39.4	1.000053	
45500.0	147.6	-53.8	234.4	577.0	300.6	38.2	1.000052	
46000.0	144.2	-53.8	229.0	577.0	301.1	36.5	1.000051	
46500.0	140.8	-54.4	224.3	576.2	301.6	34.8	1.000050	
47000.0	137.5	-55.0	219.7	575.2	300.0	32.3	1.000049	
47500.0	134.2	-55.4	214.8	574.9	477.7	30.7	1.000048	
48000.0	131.1	-55.7	210.0	574.5	295.1	29.2	1.000047	
48500.0	128.0	-56.0	205.3	574.1	292.4	28.4	1.000046	
49000.0	124.9	-56.3	200.7	573.7	289.7	27.9	1.000045	
49500.0	122.0	-56.5	196.2	573.4	286.1	26.4	1.000044	
50000.0	119.1	-56.8	191.8	573.0	286.5	25.0	1.000043	
50500.0	116.3	-57.1	187.5	572.6	284.4	24.3	1.000042	
51000.0	113.5	-57.4	183.3	572.2	282.1	23.5	1.000041	
51500.0	110.8	-57.7	179.2	571.9	280.4	22.4	1.000040	
52000.0	108.2	-58.0	175.2	571.5	279.2	21.0	1.000039	
52500.0	105.7	-58.2	171.3	571.1	279.2	20.5	1.000038	
53000.0	103.2	-58.5	167.5	570.7	265.8	24.5	1.000037	
53500.0	100.7	-58.8	163.7	570.4	292.0	25.4	1.000036	
54000.0	98.3	-59.0	159.9	570.1	293.6	26.1	1.000035	
54500.0	96.0	-59.1	156.2	570.0	279.8	26.7	1.000035	
55000.0	93.7	-59.2	152.5	569.8	273.6	27.5	1.000034	
55500.0	91.4	-59.4	149.0	569.6	292.9	26.6	1.000033	
56000.0	89.0	-59.5	145.5	569.5	272.6	29.7	1.000032	
56500.0	87.1	-59.6	142.1	569.3	299.5	29.7	1.000031	
57000.0	85.0	-59.7	138.8	569.1	306.4	30.0	1.000031	
57500.0	83.0	-59.8	135.5	569.0	313.1	27.3	1.000030	
58000.0	81.0	-60.0	132.3	568.8	321.8	23.5	1.000029	
58500.0	79.0	-60.1	129.2	568.7	330.9	26.0	1.000028	
59000.0	77.2	-60.2	126.2	568.5	337.6	16.2	1.000026	
59500.0	75.3	-60.3	123.3	568.3	347.7	12.8	1.000027	
60000.0	73.5	-60.5	120.4	568.2	355.9	10.1	1.000026	
60500.0	71.7	-60.6	117.6	568.0	4.3	7.7	1.000025	
61000.0	70.0	-60.7	114.8	567.8	9.3	5.6	1.000026	
61500.0	68.3	-61.2	112.3	567.2	12.4	4.2	1.000025	
62000.0	66.7	-61.7	107.9	566.5	352.7	2.7	1.000024	
62500.0	65.1	-61.0	106.9	567.4	248.6	3.2	1.000024	
63000.0	63.5	-59.3	103.5	569.7	276.0	4.9	1.000023	

STATION ALTITUDE 3989.0 FEET NSL
S MAR. 79 U70n HRS MST
ASCENSION ISL. 113

UPPER AIR DATA
0649020113
WHITE SANDS

GEODETIC COORDINATES
32°40'43" LAT UTM
106°3/033 LON UTM

GEOMETRIC PRESSURE ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GR/LITER METER	SPEED OF WIND KNOTS	WIND DIRECTION DEGREES FROM NORTH	INDEX OF REFRACTION
63500.0	62.0	-58.5	100.6	570.0	278.4	1.000022
64000.0	60.5	-58.5	98.2	570.0	278.8	1.000022
64500.0	59.1	-58.5	95.9	570.0	296.5	1.000021
65000.0	57.7	-58.5	93.6	570.0	344.4	1.000021
65500.0	56.3	-58.5	91.4	570.0	346.0	1.000020
66000.0	55.0	-58.5	89.2	570.0	417	1.000020
66500.0	53.7	-58.5	87.1	570.0	402	1.000019
67000.0	52.4	-58.5	85.0	570.0	201	1.000019
67500.0	51.1	-58.5	83.0	570.0	01	1.000018
68000.0	49.9	-58.5	81.0	570.0	201	1.000018
68500.0	48.7	-58.5	79.1	570.0	210.3	1.000018
69000.0	47.6	-58.5	77.2	570.0	228	1.000017
69500.0	46.5	-58.4	75.4	570.0	340.2	1.000017
70000.0	45.3	-58.4	73.6	570.0	350.4	1.000016
70500.0	44.3	-58.4	71.8	570.0	380.2	1.000016
71000.0	43.2	-58.4	70.1	570.0	410.1	1.000016
71500.0	42.2	-58.4	68.4	571.0	46.8	1.000015
72000.0	41.2	-58.4	66.8	571.0	69.9	1.000015
72500.0	40.2	-58.3	65.2	571.0	80.6	1.000015
73000.0	39.3	-58.3	63.6	571.0	101.3	1.000014
73500.0	38.3	-57.6	61.9	572.0	115.5	1.000014
74000.0	37.4	-56.8	60.3	573.0	135.0	1.000013
74500.0	36.6	-56.0	58.6	574.0	141.0	1.000013
75000.0	35.7	-55.3	57.1	575.1	146.7	1.000013
75500.0	34.9	-54.5	55.5	576.1	153.1	1.000012
76000.0	34.0	-53.7	54.0	577.1	152.6	1.000012
76500.0	33.2	-53.2	52.7	577.2	145.2	1.000012
77000.0	32.5	-53.0	51.6	577.0	120.1	1.000011
77500.0	31.7	-52.3	50.4	576.0	99.5	1.000011
78000.0	31.0	-51.1	49.3	576.6	86.0	1.000011
78500.0	30.3	-50.0	48.1	576.4	101.5	1.000011
79000.0	29.5	-49.4	47.1	576.2	106.2	1.000010
79500.0	28.9	-48.6	46.0	575.9	110.3	1.000010
80000.0	28.2	-47.8	45.0	575.7	104.4	1.000010
80500.0	27.5	-47.0	44.0	575.5	97.6	1.000010
81000.0	26.9	-46.2	42.8	576.5	96.2	1.000010
81500.0	26.3	-45.2	41.6	577.8	103.6	1.000009
82000.0	25.7	-44.2	40.4	579.1	100.7	1.000009
82500.0	25.1	-43.1	39.5	577.2	122.7	1.000009
83000.0	24.5	-42.1	38.6	579.3	131.2	1.000009

STATION ALTITUDE 3989.00 FEET MSL
5 MAR. 79 0900 HRS MST
ASCENSION NO. 113

UPPER AIR DATA
054002013
WHITE SANDS

GEODETIC COORDINATE -
32°40'43" LAT U.S.
106°37'03" LON U.S.

GEOMETRIC ALTITUDE METERS	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY G/MICRO MEETER	WIND DIA. SPEED KNOTS	WIND DIA. VELOCITY KNOTS (TN)	INDEX OF REFRACTION
83500.0	23.9	-52.0	37.7	579.3	137.6	6.7	1.000008
84000.0	23.4	-52.0	36.8	579.3	145.4	7.6	1.000008
84500.0	22.8	-52.0	36.0	579.3	151.6	8.5	1.000008
85000.0	22.3	-52.0	35.1	579.4	155.8	9.9	1.000008
85500.0	21.8	-52.0	34.3	579.4	159.3	8.9	1.000008
86000.0	21.3	-52.0	33.5	579.4	162.6	6.9	1.000007
86500.0	20.8	-51.9	32.7	579.4	169.7	9.3	1.000007
87000.0	20.3	-51.9	32.0	579.5	177.1	10.0	1.000007
87500.0	19.9	-51.7	31.2	579.7	163.4	10.9	1.000007
88000.0	19.4	-51.1	30.4	580.5	141.6	10.6	1.000007
88500.0	19.0	-50.6	29.7	581.2	201.7	10.2	1.000007
89000.0	18.5	-50.0	28.9	582.0	214.2	10.1	1.000006
89500.0	18.1	-48.4	28.2	582.7	215.3	9.2	1.000006
90000.0	17.7	-46.9	27.5	583.5	217.6	8.1	1.000006
90500.0	17.3	-46.3	26.8	584.2	221.1	7.1	1.000006
91000.0	16.9	-47.7	26.1	584.9	236.9	6.2	1.000006
91500.0	16.5	-47.1	25.5	585.7	246.6	9.9	1.000006
92000.0	16.1	-46.6	24.8	586.4	260.4	10.0	1.000006
92500.0	15.3	-46.0	24.2	587.2	247.2	10.000005	1.000005
93000.0	15.4	-45.4	23.6	587.9	23.6	1.000005	1.000005

STATION ALTITUDE 3909.0 FEET MSL
 S MAR. 7 0900 HRS MST
 ASCENSION NO. 113

WKN SIGNIFICANT LEVEL DATA
 0640020113
 WRITE SAVUS

GEODETIC COORDINATES
 32°40'43" LAT UTM
 106°37'03" LON UTM

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (IN)	WIND DATA		TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
		SPEED MPS	DIR MPS		
2835.	9999.00	9999.00	-9999.00	9.9	1051.0
2650.	101.	5.	0.	9.9	1051.9
2490.	110.	2.	1.	9.9	1052.1
2446.	96.	2.	0.	9.9	1055.0
2398.	105.	1.	0.	9.9	1054.3
2311.	151.	1.	1.	9.9	1053.5
2217.	107.	3.	1.	9.9	1058.3
2054.	71.	-3.	-0.	9.9	1050.5
1921.	278.	3.	-9.	9.9	1056.5
1891.	324.	1.	-1.	9.9	1061.9
1823.	9.	3.	-3.	9.9	1060.7
1630.	294.	13.	-5.	12.	1058.9

•• WIND DATA NOT COMPUTED DUE TO MISSING RAN AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3953.0 FEET MSL
5 MAR. 79
ASCENSION NO. 113

MANUFACTORY LEVELS
UB40020113
WHITE SANDS

GEODETIC COORDINATES
42°40'43" LAT DEG
106°37'03" LON DEG

PRESSURE MILLIPARS	GEOPOTENTIAL FLEET	TEMPERATURE DEGREES CENTIGRAVE	REL.HUM. PERCENT	WIND DATA	
				AIR DEGREES	DEPOINT CENTIGRAVE
550.0	5164.	4.0	35.	24.0	6.3
600.0	6777.	2.6	32.	4.9	4.9
750.0	6482.	-0.5	36.	5.1	1.2
700.0	10276.	-5.0	41.	30.0	9.4
650.0	12175.	-7.2	47.4	16.	35.1
600.0	14208.	-10.5	50.2	16.	35.0
550.0	16369.	-14.6	53.4	16.	35.8
500.0	18725.	-19.6	57.2	19.	35.5
450.0	21270.	-26.1	41.5	21.	34.7
400.0	24026.	-33.3	46.8	24.	34.6
350.0	27060.	-40.5	56.3	16.0	32.5
300.0	30441.	-49.3	60.0	32.0	44.9
250.0	34305.	-56.0	60.0	29.2	51.2
200.0	39963.	-54.2	59.0	29.0	40.9
175.0	41782.	-52.5	52.5	27.5	40.9
150.0	45040.	-53.8	53.8	29.0	39.1
125.0	48863.	-56.3	56.3	26.0	47.9
100.0	52486.	-58.9	58.9	29.0	45.6
80.0	58068.	-60.0	60.0	32.0	21.9
70.0	60799.	-50.7	50.7	7.0	5.9
60.0	63955.	-56.5	56.5	26.0	4.7
50.0	67715.	-58.5	58.5	6.0	5.2
40.0	72320.	-58.3	58.3	9.0	6.4
30.0	78345.	-54.3	54.3	10.4	2.3
25.0	82186.	-52.1	52.1	14.2	4.3
20.0	86929.	-51.9	51.9	16.0	10.2

•• AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE= 3900 FEET MSL
5 MAR. 79 0905 HRS MST
ASCENSION NO. 113

MRN METEOROLOGY LEVELS
0610020113
WHITE SANDS

GEODETIC COORDINATES
32°40'43" LAT DEG
106°37'03" LON DEG

GEOPOTENTIAL ALTITUDE DECAMETERS	DIRECTION DEG (T4)	WIND DATA		DEW PT UEP DEG C	TEMPERATURE AIR DEG C	PRESSURE MILLIBARS
		SPEED MPH	N-S MPH			
2650.	181°	5*	0*	99	-51.9	2.000*1
2505.	123°	2*	1*	99	-52.1	2.500*1
2386.	104°	0*	-1*	99	-54.3	3.000*1
2204.	91°	3*	0*	99	-56.3	4.000*1
2054.	7°	-3*	-0*	99	-58.5	5.000*1
1949.	282°	2*	-1*	99	-58.5	6.000*1
1823.	9°	3*	-3*	99	-60.7	7.000*1
1770.	327°	11°	-7°	99	-60.0	8.000*1
1620.	294°	13°	-5°	99	-56.9	1.000*2
1489.	149°	14°	-5°	99	-56.3	1.250*2
1373.	298°	20°	-9°	99	-53.8	1.500*2
1274.	295°	21°	-7°	99	-52.5	1.750*2
1158.	299°	21°	-10°	99	-54.2	2.000*2
1046.	291°	26°	-10°	99	-56.0	2.500*2
928.	322°	23°	-16°	99	-49.3	3.000*2
825.	325°	24°	-20°	13°	-40.5	3.500*2
732.	327°	22°	-19°	12°	-33.3	4.000*2
648.	327°	19°	-16°	10°	-26.1	4.500*2
571.	335°	15°	-14°	7°	-19.6	5.000*2
500.	238°	13°	-12°	5°	-14.6	2.500*2
433.	351°	9°	-9°	1°	-10.5	6.000*2
371.	351°	4°	-4°	1°	-7.2	6.500*2
313.	301°	5°	-2°	4°	-5.0	7.000*2
269.	5°	1°	-1°	-0°	-5.5	7.500*2
207.	43°	3°	-2°	-2°	2.6	8.000*2
157.	25°	3°	-3°	-1°	4.0	8.500*2